

इंटरनेट

मानक

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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 13385 (1992): Specification for fire extinguisher 50 litre capacity wheel mounted water type (Gas Cartridge)
[CED 22: Fire Fighting]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

अग्नि शामक - 50 लिटर क्षमता वाले, पहिये पर लदे हुए -
पानी वाले (गैस कार्टिज) - विशिष्ट

Indian Standard

FIRE EXTINGUISHER — 50 LITRE CAPACITY
WHEEL MOUNTED WATER TYPE
(GAS CARTRIDGE) — SPECIFICATION

UDC 614.846

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

**AMENDMENT NO. 1 MARCH 2002
TO
IS 13385 : 1992 FIRE EXTINGUISHER — 50 LITRE
CAPACITY WHEEL MOUNTED WATER TYPE (GAS
CARTRIDGE) — SPECIFICATION**

(*Foreword*) — Insert the following clause before last para:

'A scheme for labelling environment friendly products known as ECO Mark has been introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO Mark would be administered by the Bureau of Indian Standards (BIS) under the *BIS Act*, 1986 as per the Resolution No. 71 dated 21 February 1991 and No. 425 dated 28 October 1992 published in the Gazette of the Government of India. For a product to be eligible for marking with ECO logo, it shall also carry the ISI Mark of BIS besides meeting additional optional environment friendly requirements. For this purpose, the Standard Mark of BIS would be a single mark being a combination of the ISI Mark and the ECO logo. Requirements to be satisfied for a product to qualify for the BIS Standard Mark for ECO friendliness being included in the relevant published standards through an amendment. These requirements are optional; manufacturing units are free to opt for the ISI Mark alone also.

The amendment is based on the Gazette Notification No. 160 dated 1 April 1999 for Fire Extinguishers as environment friendly products published in the Gazette of the Government of India.'

(*Page 4, clause 10.4*) — Insert the following new clause after 10.4 and renumber the subsequent clauses:

'11 OPTIONAL REQUIREMENTS FOR ECO MARK

11.1 General Requirements

11.1.1 Any fire extinguisher having BIS Standard Mark qualifies for consideration of ECO Mark.

11.1.2 The products manufacturer must produce the consent clearance as per provision of the *Water (Prevention and Control of Pollution) Act*, 1974, *Water (Prevention and Control of Pollution) Cess Act*, 1977 and *Air (Prevention and Control of Pollution) Act*, 1981 respectively, along with authorization if required under *Environment (Protection) Act*, 1986, and the Rules made thereunder to the Bureau of Indian Standards while applying for ECO Mark.

AMENDMENT NO. 2 SEPTEMBER 2002
TO
IS 13385 : 1992 FIRE EXTINGUISHER — 50 LITRE
CAPACITY WHEEL MOUNTED WATER TYPE (GAS
CARTRIDGE) — SPECIFICATION

(Page 1, clause 7.5, line 7) — Insert 'maximum' after '6.5 mm'.

[Page 2, Table 1, Sl No. (v)] — Delete.

[Page 2, Table 1, Sl No. (ix)] — Substitute the following for the existing:

ix) Nozzle	a) Leaded tin-bronze	Gr LTB2 of IS 318
	b) Brass	Type 1 of IS 319
		or
	c) Plastic	Gr 1 of IS 291
		IS 7328

(Page 3, clause 7.8.6) — Delete.

(Page 4, clause 7.13) — Insert the following after first sentence:

'Tolerance for wheeled carriage shall be 10 mm.'

(CED 22)

AMENDMENT NO. 3 SEPTEMBER 2003
TO
IS 13385 : 1992 FIRE EXTINGUISHER —
50 LITRE CAPACITY WHEEL MOUNTED WATER TYPE
(GAS CARTRIDGE) — SPECIFICATION

(*Page 4, clause 7.12*) — Insert 'minimum' after '25 mm'.

(CED 22)

Reprography Unit, BIS, New Delhi, India

AMENDMENT NO. 4 APRIL 2005
TO
IS 13385 : 1992 FIRE EXTINGUISHER — 50 LITRE
CAPACITY WHEEL MOUNTED WATER TYPE
(GAS CARTRIDGE) — SPECIFICATION

(Page 1, clause 3) — Add '± 0.5 l' at the end.

(Page 1, clause 7.1) — Substitute the following for the existing:

7.1 The cylinder shall be of welded construction having cold or hot drawn cylindrical portion with hemispherical ellipsoidal or torispherical ends welded to it or two halves (upper half shorter) cold or hot drawn having dome and bottom dish of hemispherical or ellipsoidal or torispherical and circumferentially welded together. A cylindrical skirt having minimum 25 mm height shall be welded to the bottom dish.

7.1.1 Where carrying handle and/or supporting fittings are fitted to the body, these shall be either welded or brazed. The carrying handle shall be made of mild steel or stainless steel rod not less than 6 mm in diameter or fabricated out of mild steel or stainless steel sheets of same thickness as the body and the clamp for holding the foam making nozzle shall be of mild steel sheet/plastic having thickness not less than that of the body.

(Page 1, clause 7.2) — Insert the following new clause:

7.2 Body

The material used in the construction of extinguisher bodies shall be weldable. The filler materials shall be compatible to the body steel to give good welds. A cylindrical ring shall be fitted/welded to the bottom dish. Minimum wall thickness of the body shall be calculated using the formula:

a) For carbon steel bodies,

$$t = \frac{D}{300} + 0.7$$

Amend No. 4 to IS 13385 : 1992

- b) For austenitic stainless steel bodies,

$$t = \frac{D}{600} + 0.3$$

where

t = minimum thickness, in mm; and

D = external diameter of the body, in mm.

(Page 1, clause 7.2) — Renumber the existing clause '7.2' as '7.3' and substitute the title 'Joints' for 'Body' and renumber subsequent clauses.

(Page 4, clause 8) — Substitute the following for the existing:

8.1 All internal and external surfaces of the body shall be completely epoxy powder coated to minimum 0.050 mm thickness. The thickness of the coating shall be measured as given in IS 3203. The internal surface of the body shall be plastic/rubber coated and lining shall be of a minimum thickness of 0.5 mm as an alternative to powder coating.

8.1.1 *Test for Adhesion of Plastic Lining (Type Test)* — Subject the unfilled extinguisher to a pressure 15 kgf/cm² and store for $120 + \begin{smallmatrix} 4 \\ -0 \end{smallmatrix}$ h at $27 \pm 5^{\circ}\text{C}$.

Release the pressure and examine the extinguisher internally for cracking, separation from the wall of the body or lifting of the lining, and bubbles between the lining and the body.

8.2 Phosphating in accordance with provisions of IS 3618 may be applied on the external surface of the body as an alternative.

(Page 4, clause 9.1) — Insert 'or Post Office Red' after 'fire red' and 'or No. 538' after 'No. 536'.

(CED 22)

**AMENDMENT NO. 5 MAY 2006
TO
IS 13385 : 1992 FIRE EXTINGUISHER —
50 LITRE CAPACITY WHEEL MOUNTED WATER TYPE
(GAS CARTRIDGE) — SPECIFICATION**

[*Page 1, clause 7.1.1 (see also Amendment No. 4)*] — Substitute
'20 mm' for '6 mm'.

(*Page 4, clause 7.10*) — Substitute '250 g' for ' 300^{+10}_{-0} g'

(CED 22)

**AMENDMENT NO. 6 SEPTEMBER 2006
TO
IS 13385 : 1992 FIRE EXTINGUISHER — 50 LITRE
CAPACITY WHEEL MOUNTED WATER TYPE (GAS
CARTRIDGE) — SPECIFICATION**

[Page 4, clause 11, Title (see also Amendment No. 1)] — Substitute
'ADDITIONAL' for 'OPTIONAL'.

(CED 22)

Reprography Unit, BIS, New Delhi, India

**AMENDMENT NO. 7 AUGUST 2007
TO
IS 13385 : 1992 FIRE EXTINGUISHER — 50 LITRE
CAPACITY WHEEL MOUNTED WATER TYPE
(GAS CARTRIDGE) — SPECIFICATION**

[Page 1, clause 7.1, fifth line (see also Amendment No. 4)] — Insert the following after first sentence:

‘However vertical welding is also permitted, as higher capacity extinguishers may have 3 piece welding.’

(CED 22)

Reprography Unit, BIS, New Delhi, India

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

50 litre capacity fire extinguisher, water type (gas cartridge), is one of the larger versions of portable fire extinguisher. This type of extinguisher is suitable for dealing with class A fires which are beyond the capacity of smaller extinguishers.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 8 FEBRUARY 2010
TO
IS 13385 : 1992 FIRE EXTINGUISHER — 50 LITRE
CAPACITY WHEEL MOUNTED WATER TYPE
(GAS CARTRIDGE) — SPECIFICATION

[Page 4, clause 9.1 (see also Amendment No. 4)] — Substitute the following for the existing:

“Each extinguisher body except stainless steel body shall be painted either with epoxy powder coating or synthetic enamel paint. The shade shall be ‘Fire Red’ or ‘Post Office Red’ conforming to Shades No. 536 or 538 of IS 5. Stainless steel body shall be buffed.

NOTES

1 Whenever epoxy powder coating is applied on the external surface of mild steel body for anti-corrosive treatment, synthetic enamel paint coating is not required.

2 The body of extinguisher shall be of good finish, clear of all burrs and sharp edges.”

(Page 4, clause 9.4) — Delete.

(CED 22)

Indian Standard

FIRE EXTINGUISHER — 50 LITRE CAPACITY WHEEL MOUNTED WATER TYPE (GAS CARTRIDGE) — SPECIFICATION

1 SCOPE

This standard lays down the requirements regarding material, shape, construction, anti-corrosion treatment and tests for 50 litre capacity wheel mounted water type (gas cartridge) fire extinguishers, mounted vertically on trolley wheels.

2 REFERENCES

The Indian Standards listed in Annex A are necessary adjuncts to this standard.

3 CAPACITY

The liquid capacity of the body for water container, when filled to the specified level, shall be 50 litres.

4 PRINCIPLE

The extinguisher shall be operated in upright position by piercing the gas container by plunger thereby discharging the contents.

5 MATERIAL

The materials of construction are given in Table 1.

NOTE — When a piece of 2.5 cm cut from any portion is dipped in 20 percent sulphuric acid/5 percent sodium hydroxide solution for 30 minutes, there shall be no sign of corrosion or damage.

6 SHAPE

The shape of the body of the wheel mounted water type (gas cartridge) extinguisher shall be cylindrical with an outside diameter of 300 ± 25 mm and thickness of mild steel sheet shall be not less than 3.15 mm nominal.

7 CONSTRUCTION (For illustration see, Fig. 1)

7.1 General

The top dome and bottom dish of the body shall be without reverse of curvature and shall be dished outwards to a radius not exceeding the outside diameter of the body to which these are fixed or of which one or both form a part if solid drawn therewith.

7.1.1 Nonferrous metal parts shall be mechanically tightened and soldered if needed; or brazed to the body.

7.2 Body

Circumferential and horizontal joints of the body shall be of welded type.

7.2.1 The welding construction shall be one of the types given below and shall conform to Indian Standard mentioned against each:

- a) Spot welding (for attachment of fittings only) shall conform to IS 819 : 1957, and
- b) Metal arc welding shall conform to IS 9595 : 1980.

7.3 Carrying Handle

The carrying handle shall be made of mild steel rod or tube of not less than 16 mm diameter. If tube, the thickness of the sheet used shall be not less than 1.25 mm.

7.4 Neck Ring

The neck ring shall provide a clear opening of not less than 75 mm diameter. It shall have parallel screw threads conforming to Class A of IS 2643 (Part 1) : 1975 for an effective length of not less than 28 mm. The neck ring shall be firmly screwed to the body by welding.

7.5 Cap

The cap shall be threaded for not less than 25 mm effective length with parallel threads conforming to Class A of IS 2643 (Part 1) : 1975. At least four holes of not less than 2.5 mm diameter each shall be drilled through threads of the cap to form vents. The centre of the vent holes shall be 6.5 mm from the face of the cap joint washer.

7.6 Cartridge Holder

A cartridge holder shall be provided and fitted inside the cap in such a way that the cartridge seal piercing mechanism passes through its centre and shall puncture the cartridge clean when the cartridge is fitted to this holder.

Table 1 Materials of Construction of Various Parts of Fire Extinguisher
(Clause 5.1)

Sl No.	Component	Materials	Relevant Indian Standard
(1)	(2)	(3)	(4)
i)	Body	Mild steel sheet	Any grade of IS 1079 : 1978
ii)	Neck ring	a) Leaded tin bronze	Grade LTB 2 of IS 318 : 1981
		b) Mild-steel pipe	IS 1239 (Part 1) : 1979
iii)	Cap	Leaded tin bronze	Grade LTB 2 of IS 318 : 1981
iv)	Cap washer	Rubber	Requirements in respect of hardness as applicable to Type 3 of IS 5382 : 1985 and also acid/alkali resistant (see Note)
v)	Safety valve	Brass	Type I of IS 319 : 1974
vi)	Spring	Spring steel	Grade I of IS 4454 (Part 1) : 1981
vii)	Siphon tube	a) Mild steel	IS 3601 : 1984
		b) Brass	Alloy No. 2 of IS 407 : 1981
		c) HDPE	IS 4984 : 1987
		d) Copper	IS 1545 : 1982
viii)	Discharge fittings	a) Leaded tin bronze	Gr LTB 2 of IS 318 : 1981
		b) Brass	Gr 2 of IS 291 : 1989 Type I of IS 319 : 1974
ix)	Nozzle	a) Leaded tin bronze	Gr LTB 2 of IS 318 : 1981
		b) Brass	Type 1 of IS 319 : 1974
		c) Brass	Gr I of IS 291 : 1977
x)	Gas cartridges	Seamless or welded steel tube	IS 4947 : 1985
xi)	Hose	Braided rubber/plastic	Having bursting pressure of not less than 50 kg/cm ² — IS 7328 : 1992
xii)	Snifter valve	a) Brass	Type 1 of IS 319 : 1974
		b) Stainless steel	Grade of 04 Cr 18 Ni 10 of IS 6603 : 1972
xiii)	Strainer	Brass	Gr CuZn 37 of IS 410 : 1977
xiv)	Piercer	Steel	IS 6528 : 1972

Female of left hand thread shall be provided in the holder and shall correspond to those on the gas cartridge. Port holes shall also be provided in the cartridge holder.

7.7 Piercing Mechanism

A spring loaded piercing device shall be provided in the cap for piercing the seal of the gas cartridge when fitted to the cartridge holder. The puncturing end shall be so designed as to ensure a clear opening in the cartridge seal when piercer is operated. A safety clip shall be provided to prevent accidental operation of the piercing mechanism.

7.8 Nozzle and Other Discharge Fittings

7.8.1 Discharge Holes and Nozzles

The discharge holes and elbow shall be fixed to the body or to the cap. The union/body shall not be less than 19 mm bore.

7.8.2 A siphon tube shall be fitted to the inner end of the union and the strainer shall be fitted to the free end of the siphon tube.

7.8.3 Strainer

The strainer of not less than 1.6 mm thickness be provided at the intake of the discharge fitting. The size of holes in the strainer shall be less than that of the orifice of the nozzle and the aggregate area of the holes shall be not less than six times that of the nozzle orifice.

7.8.4 Nozzle

The design of the nozzle and the area of the orifice shall be such that it satisfies the performance requirements.

7.8.5 Snifter Valve

A snifter valve (breathing device) shall be fitted to extinguishers for upright type and the

design shall be such that when variation in atmospheric temperature is within $+ 10^{\circ}\text{C}$ there shall be no spouting of liquid through nozzle.

7.8.6 Safety Pressure Release Valve

The cap or body should have a safety pressure release valve mechanism by which if the pressure inside the container exceeds 25 kg/cm^2 , the safety pressure release valve will release the internal pressure automatically.

7.8.7 Liquid Level Indicator

The 50 litres level of the solution inside the body shall be indicated on the exterior of the body. It shall also be permanently indicated in the interior, or means shall be provided to demonstrate that the solution level is correct.

7.9 Hose

The discharge hose shall have a bore of not less than 12.5 mm and a length of not less than 3 m.

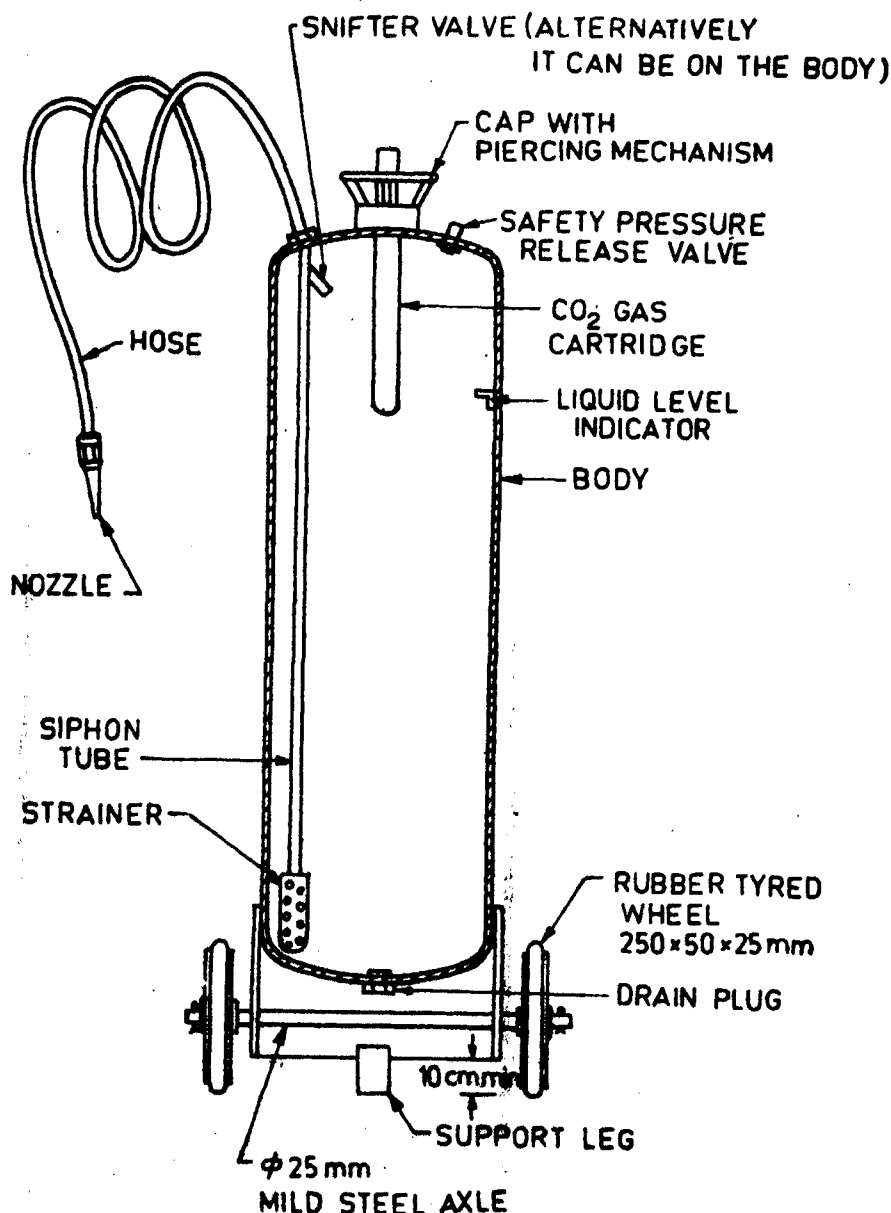


FIG. 1 50 LITRE CAPACITY WATER TYPE (GAS CARTRIDGE) FIRE EXTINGUISHER

7.10 Gas Cartridge

The capacity of gas cartridge shall not exceed 300 ± 10 g.
— 0

7.11 Expansion Space

An air space shall be provided in the body above the specified liquid level which shall be sufficient to ensure that when the discharge nozzle is temporarily closed and the extinguisher put into operation a temperature of $27 \pm 5^\circ\text{C}$, the internal pressure exerted shall not exceed 1.4 MN/m^2 (14 kgf/cm^2).

7.12 Drain Plug

At the bottom of the body a drain plug of size 25 mm with rubber washer shall be fitted.

7.13 Wheeled Carriage

The fire extinguisher shall be provided with wheeled carriage with rubber tyred wheels of size $250 \text{ mm} \times 50 \text{ mm} \times 25 \text{ mm}$ and axle of mild steel rod of 25 mm dia minimum. The fitting shall ensure that the lowest part of the body remains not less than 10 cm above the ground when it is in the vertical position.

8 ANTI-CORROSIVE TREATMENT

8.1 All internal surfaces of the body shall be completely coated with lead tin alloy (tin not less than 10 percent) applied by electrolytic process or by hot dipping process to a thickness of not less than 0.012 mm. The thickness of the coating shall be measured as given in IS 3203 : 1982. The external surface of the body and both surfaces of siphon tube shall also be subjected to this anti-corrosive treatment. There shall be no visible uncoated area both internally or externally.

8.1.1 Phosphating in accordance with the provisions of IS 3618 : 1966 may be applied on the external surface of the body as an alternative to lead-tin alloy.

9 PAINTING

9.1 Each extinguisher shall be painted fire red conforming to Shade No. 536 of IS 5 : 1978.

9.2 A picture showing a man operating the extinguisher in the correct manner shall be shown on the body of the extinguisher.

9.3 Each extinguisher shall be marked with letter A indicating the suitability for class A as laid down in IS 2190 : 1992. The letter A shall

be of 2.5 cm size printed in black colour, centrally contained in equilateral triangle of side 5 cm size. The triangle shall be coloured golden yellow.

9.4 The paint shall conform to IS 2932 : 1974.

10 TEST REQUIREMENT

10.1 The fire extinguisher shall be capable of withstanding an internal hydraulic pressure of 3.0 MN/m^2 (30 kgf/cm^2) for a period of 5 minutes without leakage or visible distortion. This test shall be carried out before the extinguisher is painted.

10.2 In case of hydraulic burst test, the mechanical failure shall not occur at a pressure of less than 4.5 MN/m^2 (45 kgf/cm^2).

10.3 The extinguisher shall satisfy the performance requirements given in 10.3.1 to 10.3.2.

10.3.1 The design and construction of the fire extinguisher shall be such that when it is filled to the specified level and then discharged at a temperature of $27 \pm 5^\circ\text{C}$ in its normal working position, it shall be capable of discharging not less than 95 percent of the liquid contents. The contents shall be expelled in the form of a continuous discharge which shall comply with the following requirements:

- a) Minimum period during which continuous jet is maintained at length of not less than 10 m shall be 60 seconds; and
- b) Maximum period for the discharge of 95 percent of the content (water) shall be 180 seconds.

10.3.2 The test shall be carried out so that stream is discharged in horizontal direction in still air condition.

10.4 The fire extinguisher shall be subjected to the test laid down in 10.1 to 10.3. After these tests, the extinguisher shall be thoroughly cleaned with water. Water shall then be completely drained off and the extinguisher retained in this condition for 24 hours. It shall be free from rust. Superficial stains which can be removed by dry cloth shall not be treated as rust.

11 MARKING

11.1 Every appliance shall be clearly and permanently marked with the following information:

- a) Manufacturers' name or trade-mark, if any;

- b) Instructions regarding the operation of appliance in clear and bold letters;
- c) The words 'WATER TYPE (GAS CARTRIDGE)' in prominent letters;
- d) Nominal charge of the liquid in litres;
- e) Liquid level to which the extinguisher is to be charged;
- f) A declaration to the effect that the extinguisher has been tested to a hydraulic pressure of 3.0 MN/m² (30 kgf/cm²);

- g) Year of manufacture; and
- h) The size of gas cartridge used.

11.1.1 The extinguisher may also be marked with the Standard Mark.

12 SAMPLING AND CRITERIA FOR CONFORMITY

The details of sampling and criteria for conformity is given in Annex B.

ANNEX A

(Clause 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	Title	IS No.	Title
5 : 1978	Colours for ready mixed paints and enamels (<i>third revision</i>)	2643 (Part 1) : 1975	Dimensions for pipe threads for fastening purposes: Part 1 Basic profile and dimensions (<i>first revision</i>)
291 : 1989	Naval brass rods and sections for machining purposes — Specification (<i>third revision</i>)	2932 : 1974	Enamel, synthetic, exterior: (a) undercoating, (b) finishing (<i>first revision</i>)
318 : 1981	Leaded tin bronze ingots and castings (<i>second revision</i>)	3203 : 1982	Methods of testing local thickness of electroplated coatings (<i>first revision</i>)
319 : 1974	Free cutting brass bars, rods and sections — Specification (<i>fourth revision</i>)	3601 : 1984	Steel tubes for mechanical and general engineering purposes (<i>first revision</i>)
407 : 1981	Brass tubes for general purposes (<i>third revision</i>)	3618 : 1966	Phosphate treatment of iron and steel for protection against corrosion
410 : 1977	Cold rolled brass sheet, strip and foil (<i>third revision</i>)	4454 (Part 1) : 1981	Steel wires for cold formed springs : Part 1 Patented and cold drawn steel wires — unalloyed (<i>first revision</i>)
819 : 1957	Code of practice for resistance spot welding for light assemblies in mild steel	4947 : 1985	Gas cartridges for use in fire extinguishers — Specification (<i>second revision</i>)
1079 : 1988	Hot-rolled carbon steel sheet and strip (<i>fourth revision</i>)	4984 : 1987	Specification for high density polyethylene pipes for potable water supplies; sewage and industrial effluents (<i>third revision</i>)
1239 : (Part 1) : 1979	Mild steel tubes, tubulars and other wrought steel fittings: Part 1 Mild steel tubes (<i>fourth revision</i>)	4989 (Part 2) : 1984	Specification for foam concentrate for producing mechanical foam for fire fighting : Part 2 Aqueous film forming foam (AFFF)
1545 : 1982	Solid drawn copper alloy tubes for condenser and heat exchangers (<i>second revision</i>)		
2190 : 1992	Code of practice of selection, installation and maintenance of portable first-aid fire extinguishers (<i>third revision</i>)		

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
5382 : 1985	Rubber sealing rings for gas mains, water mains and sewers (first revision)	7328 : 1992	High density polyethylene materials for moulding and extrusion (first revision)
6528 : 1972	Stainless steel wire	9595 : 1980	Recommendations for metal arc welding of carbon and carbon manganese steels
6603 : 1972	Stainless steel bars and flats		

ANNEX B

(Clause 12)

SAMPLING AND CRITERIA FOR CONFORMITY

B-0 GENERAL

B-0.1 The risk involved in failure of a fire extinguisher to work when needed is extremely large. Fire extinguishers, therefore, ought to have a high degree of reliability of performance during the entire period of its service. It can be achieved only through adequate design and control in all stages of manufacture and assembly.

B-1 SAMPLING

B-1.1 Lot

All fire extinguishers of the same type, shape, design and capacity produced by the same manufacturer from similar materials under almost identical conditions of manufacture shall be grouped together to constitute a lot.

B-1.2 Each lot shall be considered individually for the purpose of evaluation of quality in accordance with this specification.

B-1.2.1 The number of samples for testing to be taken at random from a lot and the criteria for conformity shall be as given in B-1.2.2 and B-1.2.3.

B-1.2.2 From each lot a number of samples as indicated in col 2 of Table 2 shall be selected at random.

B-1.2.3 They shall be examined visually as far as possible in respect of requirements specified in 4 to 7, 9, 11 and then in respect of hydraulic pressure test (see 10.1) and corrosion test (see 8).

Table 2 For Lots Produced Under Quality Control System

(Clause B-1.2.2)

<i>Number of Items in the Lot</i>	<i>Sample Size</i>
(1)	(2)
Up to 25	3
26 to 50	5
51 to 100	8
101 to 200	8 percent

B-1.2.3.1 All the samples tested shall pass these tests for the lot to be declared to conform to these requirements.

B-1.2.4 In respect of performance test (see 10.3.1), one sample shall be tested for this property and the sample shall pass this test for the lot to be declared to conform to this requirement.

B-1.2.5 In respect of bursting pressure (see 10.2) one type test shall be done and these should conform to the requirements laid down in the specifications.

B-1.2.6 In the absence of a certificate from a manufacturer about conformity of specifications for the various components (see 5.1) from a sample fire extinguisher, each component shall be taken separately and examined individually in respect of the relevant requirements laid down in the specification. The lot shall be considered satisfactory if all the components satisfy the relevant requirements of this specification.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standard

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Indian Standards are reviewed periodically and revised, when necessary and amendments, if any, are issued from time to time. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition. Comments on this Indian Standard may be sent to BIS giving the following reference:

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Branches : AHMADABAD, BANGALORE, BHOPAL, BHUBANESHWAR, COIMBATORE FARIDABAD, GHAZIABAD, GUWAHATI, HYDERABAD, JAIPUR, KANPUR, LUCKNOW, PATNA, THIRUVANANTHAPURAM.	